

# TECHNICAL REFERENCE MANUAL

## LOAN APPLICATION SYSTEM (LAS)

**A Guide for Analysts and Developers**

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# Introduction

## *Purpose*

This document has been designed to support software developers and analysts who may need to update or gain deeper understanding of the **Loan Application System (LAS)**. Included are visualisations of the organisational chart and process model, along with definitions for Data Schemas. This will allow efficient interactions with the system to facilitate support when improvements or changes are required in the system.

## *Audience*

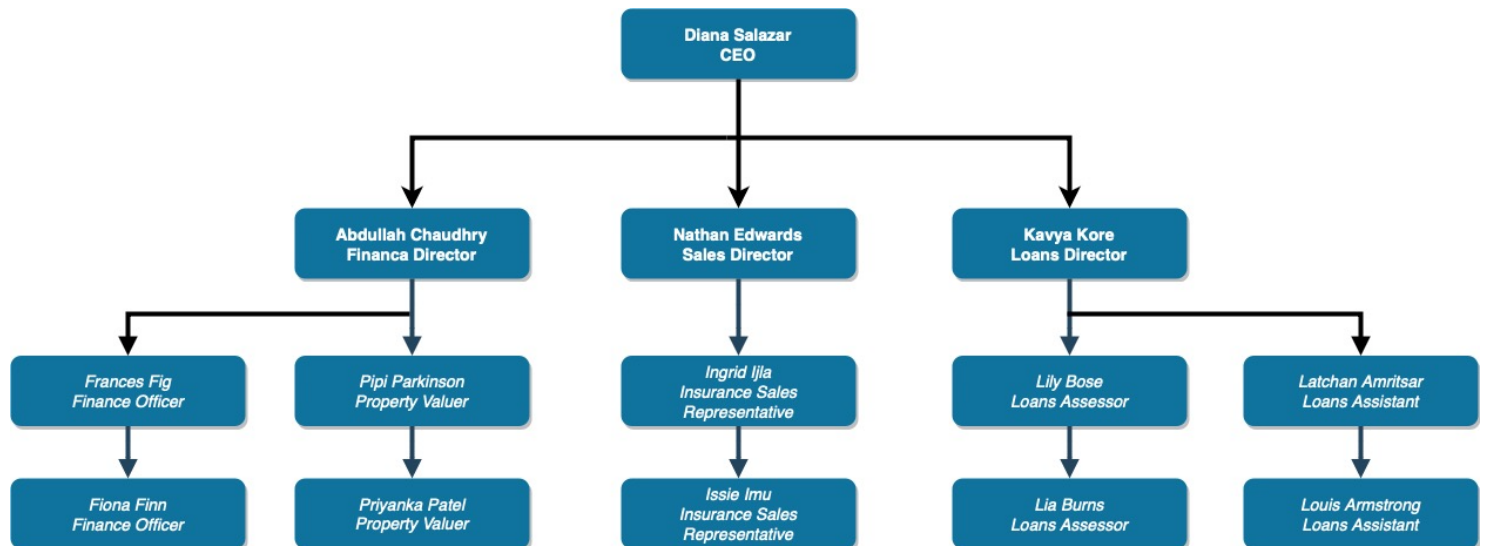
This manual is intended for all users who interact with the YAWL process editor or code behind the process (Data Schemas and Codelets).

## *Overview of the Loan Application System*

LAS is a sophisticated platform designed to streamline the loan approval process, which is run in YAWL platform, an application supported by our Information & Technology Department. The system facilitates seamless collaboration among various internal stakeholders, including Loan Officers, Financial Officers, Property Valuers, and Insurance Sales Representatives. The system automates task assignments, ensures data accuracy, and accelerates the processing of loan applications.

# Organisational Chart

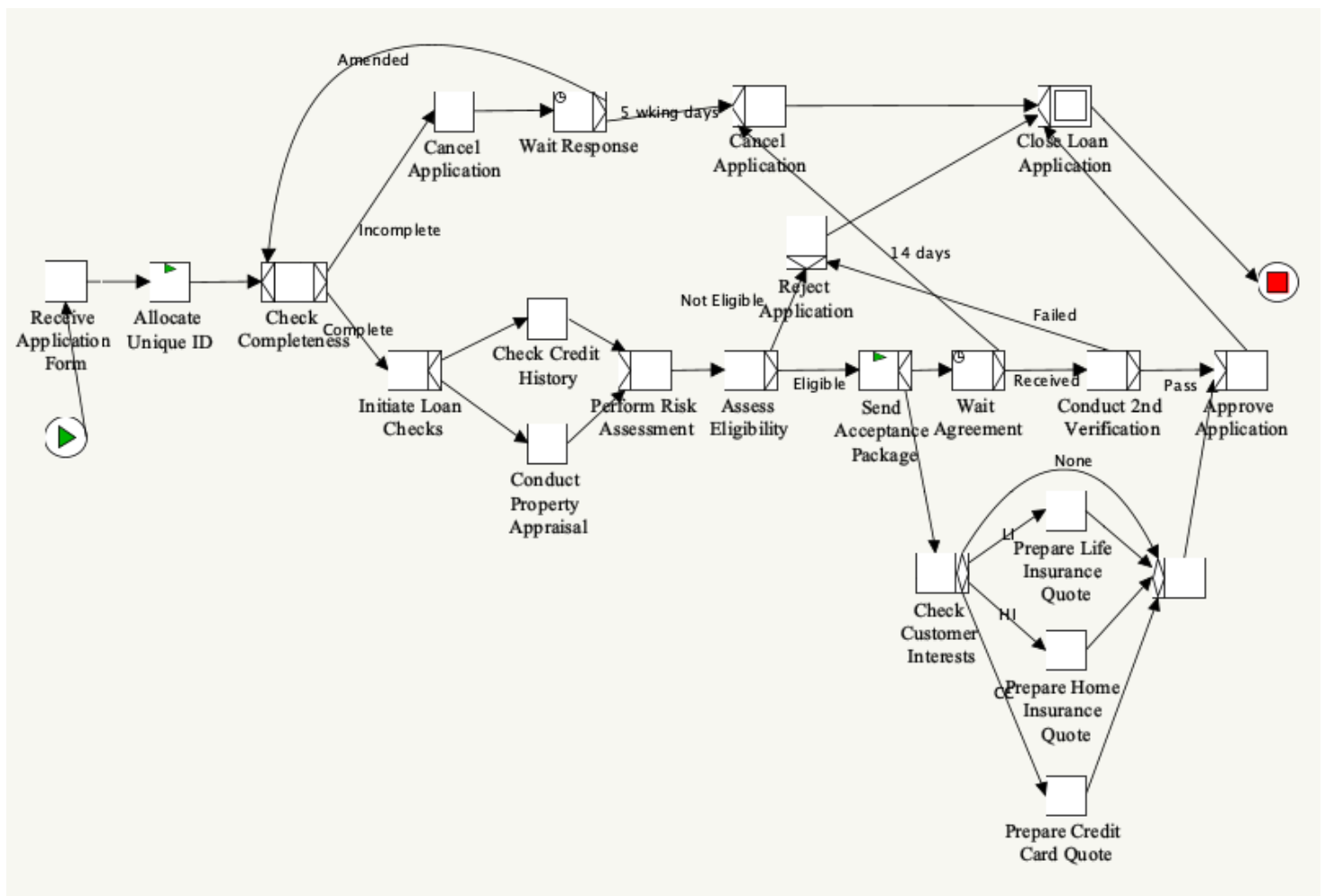
The organisational chart for the Loans Application Business involves three levels; CEO, Directors and Junior. The Loan Application process is completed by employees at Junior level across five roles. CEO and Directors manage the employees within their respective teams.



## Process Model

Within the process model, the Loans Assistant is responsible for receiving the completed application form and checking it for completeness. At this point the model splits. Should the application be incomplete, the Loans Assistant follows the case. If the application is complete the Loans Assessor picks up and works with the case, except for conducting a second verification, which is completed by a different Loans Assessor.

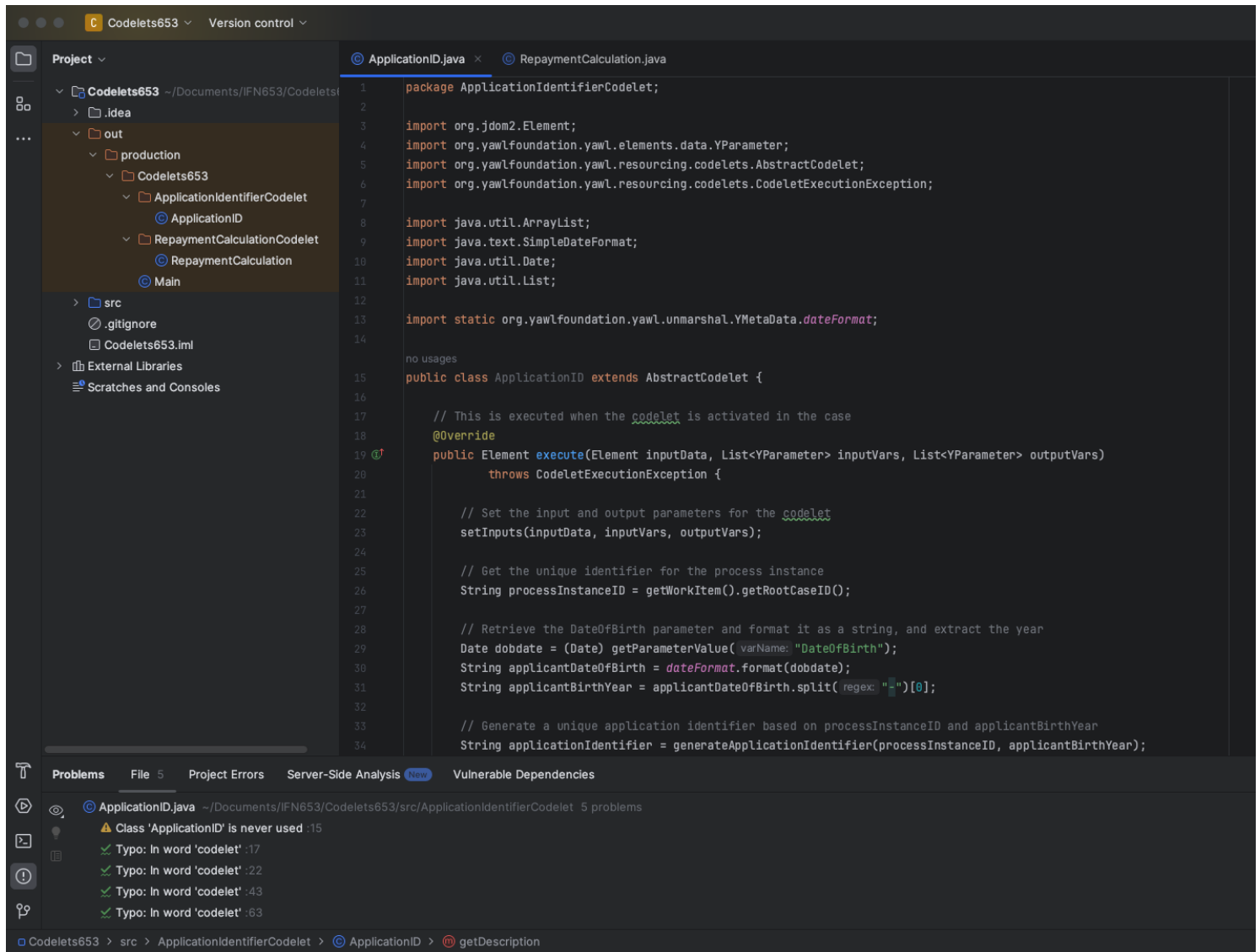
Credit History Check and Credit Care quotes are completed by a Finance Officer, and Property Appraisal is completed by a Property Valuer. The insurance Sales Representatives complete Life Insurance and/or Home Insurance quotes, if required.



# Codelet Definitions

Within the process model codelets automate two aspects, the generation of a unique identification for each application and the calculation of the loan repayments at the time the acceptance package is sent.

Codelets (.class files) include comments on how they are constructed and how parameters, both input and output, are generated. Examples from IntelliJ interface are shown.



# Data Schema Definitions

## Loan Application

### RootElement:

- <LoanApplication> is the root element that encapsulates the entire loan application.

### Applicant Information:

- <ApplicantInformation> contains details about the loan applicant.
- It includes the applicant's title, last name, first name (which can occur from 0 to 5 times), current address, date of birth, previous addresses (which can occur multiple times), and financial information.
- Financial information includes details about the current employer, monthly net salary, other sources of income (which can occur multiple times), monthly outgoings, and bank account information.

### AddressType:

- <AddressType> is a complex type used for representing address information. It includes street number, street name, city, and postal code.

### OtherIncomeType:

- <OtherIncomeType> is a complex type for representing other sources of income. It includes the income type and the monthly net income.

### BankAccountType:

- <BankAccountType> is a complex type used for representing bank account information. It includes the bank name, account type, and account number.

### Property Information:

- <PropertyInformation> contains details about the property being considered for the loan.
- It includes the property type, address, and purchase price.

### Loan Information:

- <LoanInformation> contains details about the loan being applied for.
- It includes the loan amount, the number of years for the loan, start date, and annual interest rate.

### Insurance Quotes:

- The elements <HomeInsuranceQuote>, <LifeInsuranceQuote>, and <NewCreditCardQuote> are boolean values indicating whether the applicant is interested in insurance quotes or a credit card quote.

### Administration Information:

- <AdministrationInformation> contains administrative details about the loan application.
- It includes a loan application identifier, submission date, revision date (which is optional), status (with a restricted set of values like "incomplete," "complete," etc.), comments (optional), and eligibility (a boolean value).

## Credit History Report

### RootElement:

- <CreditHistoryReport> is the root element that encapsulates the entire credit history report.

### Loan Application Identifier:

- <LoanApplicationIdentifier> is a string element used to identify the loan application associated with the credit history report.

### Loan Applications:

- <LoanApplications> is a complex type containing details about one or more loan applications associated with the individual.
- It includes information such as loan type, loan amount, duration, interest rate, outstanding amount, and monthly repayments. This type can occur multiple times (unbounded).

#### Credit Card Information:

- <CreditCardInformation> is a complex type containing details about one or more credit cards held by the individual.
- It includes information such as the card provider, outstanding amount, credit limit, interest rate, and monthly repayments. This type can occur multiple times (unbounded).

#### Public Record Information:

- <PublicRecordInformation> is a complex type that holds information about public records related to the individual's credit history.
- It includes the number of outstanding judgments and bankruptcy information. The bankruptcy information can occur multiple times (unbounded).

#### Credit Assessment:

- <CreditAssessment> is an element indicating the credit assessment rating, with a restricted set of values like "AAA," "AA," "A," "BBB," "BB," "B," and "unrated."

#### LoanApplicationsType:

- <LoanApplicationsType> is a complex type used to represent details about loan applications.
- It includes information about loan type, loan amount, loan duration, interest rate, outstanding amount, and monthly repayments.

#### CreditCardInfoType:

- <CreditCardInfoType> is a complex type used to represent details about credit cards.
- It includes information about the card provider, outstanding amount, credit limit, interest rate, and monthly repayments.

#### PublicRecordInfoType:

- <PublicRecordInfoType> is a complex type used to represent public record information.
- It includes the number of outstanding judgments and optional bankruptcy information, which can occur multiple times.

#### BankruptcyInfoType:

- <BankruptcyInfoType> is a complex type used to represent bankruptcy information.
- It includes the date when the bankruptcy was raised and whether it's currently active (a boolean value).

### Risk Assessment

- RootElement:
  - <RiskAssessment> is the root element that encapsulates the entire risk assessment report.
- Loan Application Identifier:
  - <LoanApplicationIdentifier> is a string element used to identify the loan application associated with the risk assessment.
- Risk Weight:
  - <RiskWeight> is an integer element with a restriction.
  - It has a minimum inclusive value of 0 and a maximum inclusive value of 100, which means that the risk weight should be within the range of 0 to 100.
- Rules Applied:



- <RulesApplied> is a string element used to provide information about the rules that were applied during the risk assessment.

### Property Appraisal Report

- RootElement:
  - <PropertyAppraisalReport> is the root element that encapsulates the entire property appraisal report.
- Loan Application Identifier:
  - <LoanApplicationIdentifier> is a string element used to identify the loan application associated with the property appraisal.
- Average Property Value:
  - <AveragePropertyValue> is a decimal element used to represent the average property value.
- Estimated Market Value:
  - <EstimatedMarketValue> is a decimal element used to represent the estimated market value of the property.
- Comments:
  - <Comments> is a string element and is marked as optional with minOccurs="0". It allows including additional comments or information related to the property appraisal.

### Repayment Agreement

- RootElement:
  - <RepaymentAgreement> is the root element that encapsulates the entire repayment agreement.
- Loan Application Identifier:
  - <LoanApplicationIdentifier> is a string element used to identify the loan application associated with the repayment agreement.
- Monthly Repayment Amount:
  - <MonthlyRepaymentAmount> is a decimal element used to represent the amount of money that the borrower will repay each month as part of the agreement.
- Number of Repayments:
  - <NumberRepayments> is an integer element representing the total number of repayments to be made as part of the agreement.

### Home Insurance Quote

- RootElement:
  - <HomeInsuranceQuote> is the root element that encapsulates the entire home insurance quote.
- Loan Application Identifier:
  - <LoanApplicationIdentifier> is a string element used to identify the loan application associated with the home insurance quote.
- Sales Representative Name:
  - <SalesRepresentativeName> is a string element used to represent the name of the sales representative or agent who provided the home insurance quote.
- Home Insurance Annual Cost:
  - <HomeInsAnnualCost> is a decimal element used to represent the annual cost of the home insurance.

## Life Insurance Quote

- RootElement:
  - <LifeInsuranceQuote> is the root element that encapsulates the entire life insurance quote.
- Loan Application Identifier:
  - <LoanApplicationIdentifier> is a string element used to identify the loan application associated with the life insurance quote.
- Sales Representative Name:
  - <SalesRepresentativeName> is a string element used to represent the name of the sales representative or agent who provided the life insurance quote.
- Life Insurance Annual Cost:
  - <LifeInsAnnualCost> is a decimal element used to represent the annual cost of life insurance.

## Credit Card Quote

- RootElement:
  - <CreditCardQuote> is the root element that encapsulates the entire credit card quote.
- Loan Application Identifier:
  - <LoanApplicationIdentifier> is a string element used to identify the loan application associated with the credit card quote.
- Finance Officer's Name:
  - <FinanceOfficersName> is a string element used to represent the name of the finance officer or agent who provided the credit card quote.
- Card Limit:
  - <CardLimit> is a decimal element used to represent the credit card's limit, which is the maximum amount of credit that can be extended to the cardholder.
- Regular Interest Rate:
  - <RegularInterestRate> is a decimal element used to represent the regular interest rate for the credit card.
- Discounted Interest Rate:
  - <DiscountedInterestRate> is a decimal element used to represent a discounted interest rate that may apply to the credit card under certain conditions.

## Agreement Summary

- RootElement:
  - <AgreementSummary> is the root element that encapsulates the entire agreement summary.
- Loan Application Identifier:
  - <LoanApplicationIdentifier> is a string element used to identify the loan application associated with the agreement summary.
- Conditions Agreed:
  - <ConditionsAgreed> is a boolean element used to indicate whether the conditions of the agreement have been agreed upon. It can be either true or false.
- Repayment Agreed:
  - <RepaymentAgreed> is a boolean element used to indicate whether the repayment terms of the agreement have been agreed upon. It can be either true or false.